



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,518	12/21/2001	Ralph A. Chappa	9896.149.0	4505

22859 7590 09/01/2004

INTELLECTUAL PROPERTY GROUP
FREDRIKSON & BYRON, P.A.
200 SOUTH SIXTH STREET
SUITE 4000
MINNEAPOLIS, MN 55402

EXAMINER

VO, HAI

ART UNIT PAPER NUMBER

1771

DATE MAILED: 09/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/028,518

Applicant(s)

CHAPPA ET AL.

Examiner

Hai Vo

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07/9/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) 1-21,23-28,31-35 and 37-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22,29,30,36 and 42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0325, 0412, 0421.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

Election/Restrictions

1. Applicant's election with traverse of Group II, porous surface species and acrylamide species, claims 22, 29, 30, 36 and 42 in the reply filed on 07/09/2004 is acknowledged. The traversal is on the ground(s) that no serious burdens on the Examiner exists. The subject matter of Groups I, II and III are believed sufficiently related that a thorough search of the subject matter of any one group would encompass a search for the subject matter of all groups. This is not found persuasive because a search of Group II would not include the search for Groups I and III. (Group I belongs to class 427/ 333, Group II to class 428/221 and Group III to class 252/183.3). Further, the traversal is on the ground(s) that claim 21 is apparently generic for support surfaces, which includes all of the species identified by the Examiner, and thereby would read on both the elected and non-elected species. Additionally, Applicants argue that generic claims for polymerizable monomers within the elected group are claims 21, 27 and 40. These claims include all of the species identified by the Examiner and thereby would read on both the elected and non-elected species. Examiner Michener has required a proper restriction of species under 35 U.S.C. 121, but claim 21, 27 and 40 are not currently generic as Examiner Michener stated. Group II is divided into two subgroups: claims 21, 23-28, 32-35, and 37-41 are directed to a non-porous support surface species, and claims 22, 29, 30, 36 and 42, directed to a porous support surface species instead. The examiner respectfully points out that since the porous surface support and neutral hydrophilic structural monomer

species are unpatentable over the prior art (see rejections below, US 5,414,075), the species restriction as required is proper.

Claim Objections

2. Claims 22, 29, 30, 36 and 42 are objected to because they depend from non-elected claims 1 and 15.

Claims 22 and 36 recites "(e.g., photoreactive)" which should be removed from the claims in accordance with US Patent Practice.

The same token is applied to claim 42, the phrase "as well as" should be removed from the claims in accordance with US Patent Practice.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 22, 29, 30, 36 and 42 are rejected under 35 U.S.C. 102(a) as being anticipated by WO 01/21326 (hereafter WO'326). WO'326 reads on every element of the presently claimed subject matter, it is the examiner's position that WO'326 anticipates the claimed subject matter.
5. Claims 22, 29, and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 00/12575 as evidenced by Swanson et al (US 5,942,555). US 6,515,039

to Ulbricht et al is relied on as an equivalent form of WO 00/12575. Ulbricht teaches a continuous polymeric solid phase supporting materials for simultaneous combinatorial synthesis of organic compounds comprising a support porous polypropylene membrane and individual chains of a graft copolymer which are synthesized by heterogeneous photoinitiated graft copolymerization of acrylate monomers on the entire surface of the supporting membrane (table 1 and column 5, line 55 to column 6, lines 40). Ulbricht teaches the grafting agent is a benzophenone derivative (column 9, lines 60-61). US 5,942,55 evidences that benzophenone comprises one latent reactive group –SH shown in compound I of table I. Applicants and Ulbricht appear to use the same material for the grafting agent. Likewise, the coating is inherently, covalently attached to the surface by the residues of one or more photoreactive groups provided by the grafting agent. It is the examiner's position that Ulbricht anticipates the claimed subject matter.

6. Claims 22, 29, 30, 36, and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by Swan et al (US 5,414,075). Swan teaches a surface modification of polymethylmethacrylate (PMMA) coupon by sequential application of tetrakis (4-benzoylbenzyl ether) of Pentaerythritol (tetra-BBE-PET) and polyvinylpyrrolidone (PVP) (example 3). The coated coupon is more wettable and lubricious to the touch than the one coated with PVP alone (example 3). The support surface is a polyvinylidene difluoride membrane (example 7). The coating is covalently attached to the support surface by the residues of one or

more latent reactive groups provided by the grafting reagent (column 1, lines 50-60). Swan discloses the photoreactive grafting reagent applied to the support surface. The coated support is then exposed to UV light in order to promote covalent bond formation at the support surface. Then, the polymerizable compound is added, followed by a second UV illumination for attachment to the activated support surface. The surface modification serves for the purposes of wettability and lubricity. It's the examiner's position that Swan anticipates the claimed subject matter.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 22, 29, 30, 36 and 42 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 28, 29 and 33 of U.S. Patent No. 6,669,994 in view of Swan et al (US 5,414,075). Claims 28, 29 and 33 of U.S. Patent No. 6,669,994 disclose a support surface and a coating layer attached to the support surface wherein the coating layer comprises

a nonpolymeric core molecule having attached thereto, and the residues of two or more photoreactive species and a plurality of molecules bearing free radical polymerizable groups. Since the polymeric coating of the U.S. Patent No. 6,669,994 meets all the structural limitations and chemistry as required by the claims, it is not seen that the polymeric coating would have performed differently than that of the present invention in terms of covalent bonding and the physical properties as recited in the claims. This is in line with *Ex parte Tummers et al.* 137 USPQ 444 which holds that if the chemical composition of the claimed article of manufacture recited in the claims is the same as the identical structure of the prior art, it is immaterial that the applicant recognized different advantages flowing therefrom than did the prior art. Claims 28, 29 and 33 of U.S. Patent No. 6,669,994 do not specifically disclose the support surface being porous. Swan teaches a multifunctional reagent useful for the attachment of desired molecule to porous PVDF membrane (example 7). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the porous support membrane to which the coating agent is attached since the porous support surface have been shown in the art to recognized equivalent support surfaces for the attachment of the multifunctional reagent.

Claims 28, 29 and 33 of U.S. Patent No. 6,669,994 do not specifically disclose the molecules bearing free radical polymerizable groups comprising N-vinylpyrrolidone monomers. Swan teaches a multifunctional reagent useful for the attachment of desired molecule to porous support surfaces wherein the

multifunctional reagent comprises acrylamide and N-vinylpyrrolidone monomers and (examples 3-6). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ acrylamide, N-vinylpyrrolidone monomers or combinations thereof as the molecules bearing free radical polymerizable groups of the coating agent motivated by the desire to provide the surface coating without cracking.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on M,T,Th, F, 7:00-4:30 and on alternating Wednesdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR

Application/Control Number: 10/028,518

Page 8

Art Unit: 1771

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HV

Hai Vo
Tech Center 1700